Notes (05/06/2024)

Wifi

1. **What is it used for?**
    - Wi-Fi (short for “Wireless Fidelity”) is a wireless networking technology that allows devices like computers, smartphones, and printers to connect to the Internet and communicate with each other. It enables data exchange without the need for physical cables.
2. **Which network device generates this signal?**
    - The signal is generated by a wireless router or a wireless access point (AP). These devices create a local Wi-Fi network.
3. **What is your average coverage (meters)?**
    - The coverage area (range) of Wi-Fi depends on factors like the router’s power, antenna design, and physical obstacles. Typically, it can cover several rooms within a home or office.
4. **Approximately how many devices can be connected?**
    - Wi-Fi networks can handle multiple devices simultaneously. Modern routers support dozens of connected devices.
5. **What electromagnetic frequency (GHz) do you use? There are two.**
    - Both.
6. **Which frequency covers more coverage, but is it slower?**
    - 2.4 GHz.
7. **Which frequency covers less coverage, but is it faster?**
    - 5 GHz.
8. **What signals or objects manage to interfere with it?**
    - Other electronic devices (microwaves, cordless phones) and physical obstacles (walls, furniture) can interfere with Wi-Fi signals.
9. **What type of network does it create (PAN, LAN, CAN, MAN, WAN)?**
    - LAN.

Bluetooth

1. **What is it used for?**
    - Bluetooth is commonly used for short-range wireless communication between devices. It’s ideal for connecting peripherals like headphones, speakers, and keyboards to smartphones or computers.
2. **What is your average coverage (meters)?**

    - 10 meters (approx 33 feet).
3. **Approximately how many devices can be connected?**
    - It supports multiple paired devices, but only one active connection at a time.
4. **What electromagnetic frequency (GHz) do you use?**
    - 2.4 GHz
5. **What signals or objects manage to interfere with it?**
    - Other Bluetooth devices and physical barriers can affect its performance.
6. **What type of network does it create (PAN, LAN, CAN, MAN, WAN)?**
    - PAN.

NFC/RFID

1. **What is it commonly used for?**
    - NFC (Near Field Communication) and RFID (Radio Frequency Identification) are used for contactless data exchange. NFC is common in mobile payments and smart cards, while RFID is used for tracking inventory or access control.
2. **What electromagnetic frequency (GHz) do you use?**
    - NFC operates around 13.56 MHz, and RFID frequencies vary (low frequency, high frequency, ultra-high frequency).
3. **What is your average coverage (cm)?**
    - NFC has a very short range (a few centimeters), while RFID can vary from centimeters to meters.
4. **What signals or objects manage to interfere with it?**
    - NFC and RFID are less susceptible to interference due to their short range.
5. **What type of network does it create (PAN, LAN, CAN, MAN, WAN)?**
    - LAN.

Infrared

1. **What is it commonly used for? In the sense of networks.**
    - Infrared (IR) was popular for remote controls and data transfer between devices (e.g., old mobile phones). However, it's less common now due to limitations.
2. **Approximately how many devices can be connected?**
    - IR can connect a few devices at a time.
3. **What signals or objects manage to interfere with it?**
    - Sunlight and physical obstacles can interfere with IR signals.
4. **What type of network does it create (PAN, LAN, CAN, MAN, WAN)?**
    - PAN

Also view at https://sites.google.com/view/owca/notes/05-06-2024